National Institute of Environmental Health Sciences

Distribution of dengue cases in the state of Oaxaca, Mexico, during the period 2004-2006

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Abstract:

Background: Dengue virus infection is an emergent viral disease and the most important transmitted by a vector worldwide. In Mexico it has been an important public health problem since 1995 and Oaxaca is one of the most affected states in the country. Objective: To determine the geographic distribution of confirmed dengue cases in the state of Oaxaca, Mexico, the serotypes circulating, and the main gender and age groups affected. Study design: Information about confirmed dengue cases obtained by LESPO during the period 2004-2006 was classified, sorted, and analysed. A RT-PCR technique was used to determine the serotype of the virus in serum samples. Results: A substantial increment in the number of dengue cases was noticed during the period of this study. The most affected sanitary jurisdiction was located on the coast where the climatic conditions were ideal for vector development and where there is significant migratory activity. The most affected group was the 11-15-year-old group. Dengue haemorrhagic fever was more frequent in men than in women over 16 years old, with a significant difference evaluated by χ 2-test ($p < 0.001$). Four serotypes of the virus were detected in the state and two co-infections with DEN2-3 and DEN3-4 were identified. Conclusions: The increment in the number of dengue cases in the state of Oaxaca could be explained by several factors such as the presence of the four serotypes of the virus, the migratory phenomenon, the climatic conditions and the socioeconomic level of the population.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Dengue

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content